

Joseph Gallo Farms Methane Digester System

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About Joseph Gallo Farms

- 12,000 acres – Merced County – near Atwater and Livingston
- 17,000 dairy cows on five dairies
- Cheese plant processes 1,000,000 pounds of milk daily
- Digester on Cottonwood Dairy

Why Install a Methane Digester?

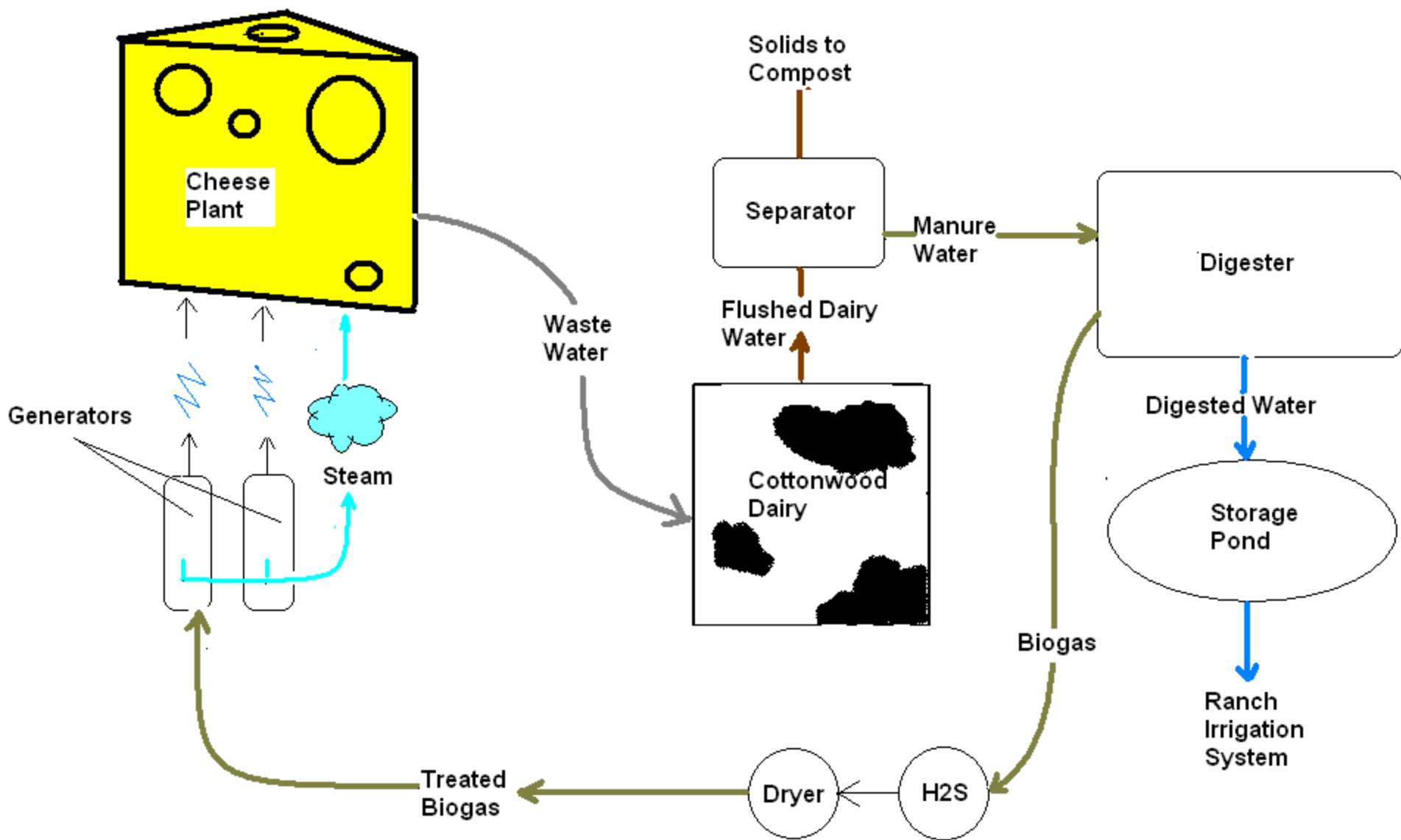
- Environmental benefits
- Economic benefits
- Improved dairy infrastructure
- Grants

Every situation is different!

No “one size fits all” solutions

System Overview

Joseph Gallo Farms Methane Digester System





Cheese plant wastewater tanks



Flushing a free stall lane



Flushwater channel



Manure separator



Cover of digester lagoon



Retention pond



H₂S Scrubber



Refrigerated gas dryer



Flare



Generator



Boiler

How did we do it?

- Williams Engineering Associates and Tetra Tech – Engineers
- Heavy involvement by construction and maintenance staff
- Subcontracted major portions

Project Challenges

- Permits
- Electrical interconnect
- Cost overruns and mis-estimates
- Delays
- Gas system

Operating Issues

- Digester System
- H₂S Scrubber
- Engine Maintenance
- Emissions Controls

Results

- Overall very good
 - Generating electricity and steam as planned
 - Benefit about \$2,000 per day
 - 4 year payback
 - High methane production allowed second generator

Next Steps

- Build new digester at adjacent dairy – use for boiler fuel
- Improve gas transport and H₂S scrubbing

Making electricity out of cow
manure sure beats paying the
utility!

